

traced diagonally down the hillside, and, at 125 feet vertically lower, No. 2 adit tunnel was driven in on the lead for a distance estimated at about 500 feet. From this second tunnel level connection was made, in ore, with No. 1 tunnel, and a winze was sunk about 150 feet, also in ore. This winze is now below the No. 3 level, which is to be run "blind," or from the winze and not opening to the surface. When the description quoted from was written the level had been opened out from the winze and the first cross-cuts made. The vein filling at that depth was found to be similarly oxidized to that seen in the upper levels. Some 250 feet vertically lower than No. 2, on the outcrop of the lead, the adit tunnel known as No. 4 had been run in. This followed the lead. The ore in it was not so abundant, but at about 1,000 feet in from the portal, it was not yet under the main ore bodies met with in the upper workings. It was intended to begin systematic cross-cutting on this level during the spring now closing, but no advices have been received as to progress made to date.

From the foregoing it will be seen that the lead has been traced in depth to the fourth level, and for a length of about 1,000 feet. The workable ore is proven to the third level, and there is good reason to believe that it will soon be proved to the fourth level also. The lead matter is associated with silicious lime (analysis about 20 per cent. silica, 25 per cent. lead carbonate and 25 to 30 per cent. iron). The lead is either a replacement of a stratum in the shales, originally largely or wholly composed of lime, or the lime has been deposited from adjacent lime beds, in and with the lead matter, in a foliation of the shales.

The ore shipped to the smelter averaged, as shown by smelter returns, about 50 oz. silver and 60 per cent. lead. No attempt has been made to mine second class ore, yet there were on the dump, taken out in the course of development, some 4,000 tons of ore estimated to run about 35 oz. silver and say 35 to 40 per cent. lead. In the mine workings much ore is actually "in sight," and the occurrence of more is demonstrated almost to a certainty. A rough calculation, made last summer, gave, if not of ore actually "blocked out" certainly of "probable ore," about 50,000 tons, which quantity, there is every reason to expect, has been largely increased by subsequent developments.

The owners of the Paradise mine contemplate the erection of a lead smelter at the foot of the mountain, below the basin. A survey for an aerial tramway from the mine to the proposed smelter site has been made, but the construction of this tramway will not be proceeded with until after more work has been done at the fourth level of the mine. It is estimated that with such a means to bring down the ore a saving of at least \$1 per ton in cost of transportation would be made. The ore is nearly self-fluxing, so, with so com-

paratively large a tonnage available it would appear



Looking up Paradise Basin, Windermere Mining Division.

good policy to erect a blast-furnace.